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How to Advertise? Role of Congruence and Involvement on Multiscreen Consumption

Short Paper

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Abstract

It has become increasingly common for consumers to use additional devices while watching TV, a phenomenon called multiscreen viewing. This provides an additional advertising channel for marketers, specifically the second screen. However, it is not without its complexities; marketers must optimally time advertisements on the second screen conditional on the primary screen activity. Using a behavioral experiment this study proposes to investigate how consumers' engagement and psychological involvement with the program on the primary screen affects their multiscreen behavior and its effect on brand recall. We further expect this relationship to be moderated by the congruence of the advertisement relative to the primary screen. Results of the study will not only contribute to the second screen literature in marketing and Information systems, but also help marketers develop actionable strategies for the second screen in multiscreen viewing contexts.

Keywords: Psychological involvement, Ad congruence, Multiscreen usage

Introduction

Use of mobile devices while performing activities such as walking, eating, and spending time with friends is increasingly common. An interesting manifestation of this phenomenon is the rise of multiscreen consumption, which is the use of additional devices when watching television. As of March 2017, 81% of American consumers used another device while watching television (Statista 2017a). This is of particular interest in the advertising industry considering that firms spend roughly 70 billion dollars on television advertising every year (Forbes 2018). Especially considering emerging research which indicates multiscreen viewing negatively impacts ad recall and recognition (Angell et al. 2016; Voorveld 2011).

While consumers are balancing multiple screens, they are continuously interrupted by different alerts, including pop-up advertisements, system generated alerts (e.g., security updates), and push notifications. Research has shown the effects of interruptions on both the primary (Pashler 1994) and secondary tasks (Jenkins et al. 2016). Researchers have also studied interruptions and consumer behavior in various contexts such as how timing of the interrupt (Jenkins et al. 2016), interrupt type (i.e., whether the consumer is habituated to the interrupt; Anderson et al. 2016), and attention affects differ due to habituation (Vance et al. 2017). However, with the pervasiveness of simultaneous media consumption, how consumers behave

when they receive notifications on the second screen requires investigation. Further, the level of engagement and the congruence of ad message with the primary task has not been considered in the multiscreen landscape. Thus, this study will address this research gap by considering pop-up advertising efficacy in multiscreen television viewing experiences, through the lens of ad congruence and user engagement with the primary screen. We ask the following research questions:

How does user engagement with the primary screen affect multiscreen usage and how does consumer's level of involvement moderate this relationship?

How does multiscreen usage affect ad recall and how does ad message congruence moderate this relationship?

Literature Review

As a framing device, dual task interference (DTI) is introduced. Next, multiscreen consumption and ad congruency literatures are reviewed to provide a theoretical foundation.

Dual Task Interference

Alerts and notifications on mobile devices can have positive as well as negative effects on consumers. On one hand interruptions provide users with timely/essential information (e.g., security alerts).On the other hand they can have substantial negative impacts including reduced productivity (McFarlane 2002), increased stress (Mark et al. 2008), and increased task-completion time (Iqbal and Horvitz 2007).This is because of DTI, a limitation of the human cognitive system in which the human brain must rapidly switch attention between multiple tasks that are being attempted concurrently (Pashler 1994). Research indicates that even while performing simple tasks simultaneously, the tasks interfere with each other, even though they are neither intellectually stimulating nor physically incompatible (Pashler 1994). Past research in judgment and decision making and information systems literatures has considered DTI and various aspects such as performance on the primary task (Pashler 1994), performance on the secondary task (Jenkins et al. 2016), timing effects of interrupts (Jenkins et al. 2016), and effects of habituation (Vance et al. 2017). However, with increase in multiscreen consumption among consumers, the effect of DTI on consumers' behavior is an intriguing question for researchers.

Second Screen

Emerging multiscreen literature has focused on understanding how and why people use second screens (see Neate et al. 2017 for a review). Only a handful of recent studies have begun considering whether splitting attention between several screens is beneficial or detrimental for marketers trying to push their products to consumers through pop-up ads. Initial evidence indicates that multiscreen viewing negatively impacts ad memory, such as recall and recognition (Angell et al. 2016; Bellman et al. 2017; Bellman et al. 2012; Voorveld 2011). This study extends this recent work by considering ads occurring on the secondary, as opposed to primary, screen. Doing so will provide important insights marketers can use to effectively communicate to consumers engaging in multiscreen viewing.

Advertising Congruence

Accurately contextualizing information makes it appear more useful as similarity between messages and message contexts improves message effectiveness (Cannon 1982). For instance, an ad for suitcases may seem more "suitable" in a travel magazine because individuals may feel more motivated to process information embedded in advertisements for context-congruent products (Petty & Cacioppo 1986, Maclnnis et al. 1989). It is known from the relevance accessibility framework (Lynch et al. 1988) that message appeals are most likely to affect evaluation outcomes when they are both relevant and accessible (Baker and Lutz 2000). Consumers' feelings of relevance also trigger more motivated attention and comprehension processes (Celsi & Olson 1988). These findings have been confirmed in multiscreen literature where research indicates that contextual congruence determined how successfully consumers processed and recalled advertising content embedded on the primary screen (Angell et al. 2016). Thus, congruence is important when considering advertising in multiscreen viewing environments.

Context

Sports will serve as the context of our study as it is a popular type of television programming and is frequently viewed in multiscreen environments. While traditional television subscriptions have dropped to an all-time low, sport content has provided a saving grace. The Super Bowl was the leading single telecasted TV program in 2016 (Statista 2017b). The amount of time devoted to sport content on TV has increased by 23% in the last 10 years (Nielsen 2014). Multiscreen viewing is high for sport fans; in the world cup 91% of fans simultaneously used a second screen, compared to 80% of non-fans) (Mander 2014). Thus, sport content is an important and appropriate context. The development of the research hypotheses is articulated in the subsequent section.

Hypothesis Development

Despite the prevalence of multiscreen consumption behaviour, there is limited research to understand it holistically. A consumer's primary screen engagement can be thought of as *how much attention the consumer is allocating the content on the primary screen*. Additional screens are used by fans to complement the viewing experience on the primary screen by fulfilling additional gratifications for consumers (Billings et al. 2017). For example, while watching the game on the primary screen, a sport fan may use a second screen to look up information related to the game or access social media to provide additional stimulation. Since additional screens are used to supplement the needs gratified during the viewing experience, the usage of additional screens is likely to depend on how engaging consumers perceive the primary screen. Thus,

H1: There is an inverse relationship between primary screen engagement and multiscreen usage.

It is well established that consumers' involvement with advertising varies with respect to their perception of personal relevance, the degree to which they can identify with the content based on their inherent needs, values and interests (Zaichkowsky 1985). In the context of multiscreen viewing, interactive media like television can increase the involvement levels of consumers further (Maclnnis & Joworski 1989). Extending this to the sports context, a consumer's level of commitment towards a sport team can alter the amount of cognitive effort put forth in processing content as well as recall of embedded content facts (Funk & Pritchard 2006). Moreover, the degree of involvement is indicative of the knowledge and understanding a consumer possesses with respect to the sport and its various elements (e.g., team, players, culture, etc.) (Funk & James 2001). As such, the level of psychological involvement could significantly alter the attention a consumer directs towards each screen in a multiscreen environment. For example, a highly involved fan may focus on the screen streaming the sport game over another screen featuring an unrelated task, while a less involved counterpart may favor the second screen. Therefore,

H2: Psychological involvement moderates the relationship between primary screen engagement and multiscreen usage.

Frequently when using a second screen consumers are inundated with pop-up ads (e.g., in-app ads) and notifications. To maximize their investment, advertisers seek to optimally deliver their ads to improve brand memory and thus advertising efficacy. During a multiscreen experience, it is anticipated that the amount of attention dedicated to the second screen will influence the efficacy of its ads. Hence,

H3: There is a positive relationship between multiscreen usage and ad recall.

The alignment between television programming content and/or material presented before/after an ad influences advertising response through the concept of congruence (e.g., Myers et al. 2014). Congruence research has identified that consumers are increasingly motivated to process information embedded in ads for context-congruent products (Maclnnis & Jaworski 1989; Petty & Cacioppo 1986). For example, an NFL athlete endorsed ad during an NFL game would positively influence a fan's response more than a non-athlete endorsement. Therefore,

H4: Ad congruence will moderate the relationship between multiscreen usage and ad recall.

Further, a consumer's psychological involvement with a sports team can alter the amount of cognitive effort put forth in processing content as well as recall of embedded content facts (Funk & Pritchard 2006). Thus,

we can expect the level of involvement with a sports team to moderate the relationship between multiscreen usage and ad recall:

H5: Psychological involvement will moderate the relationship between multiscreen usage and ad recall.

Effectively, as outlined in the following model, this study explores the role of primary screen engagement, consumer involvement, multiscreen usage, and ad congruence on ad recall in a multiscreen viewing landscape.

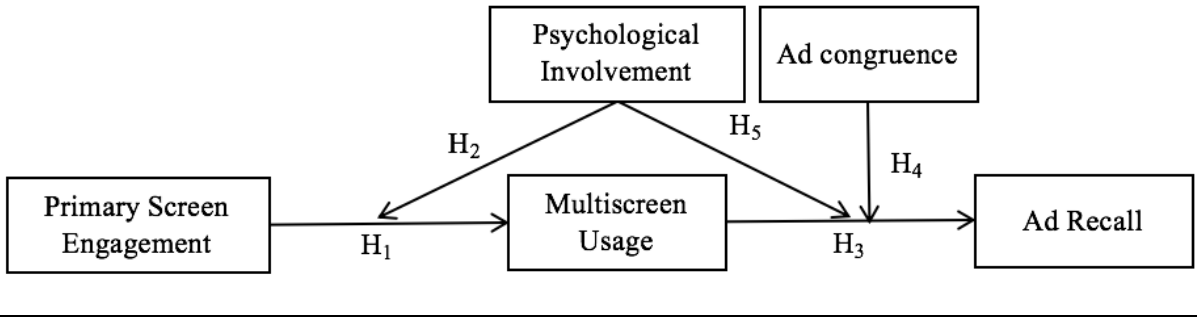

Figure 1. Conceptual Research Model

Research Design

A behavioural experiment will be conducted to test the proposed hypotheses. Since younger consumers are more likely to embrace multiscreen consumption (Courtois & D'heer 2012), 200 students will be recruited to participate in the experiment. Following participant briefing on the task and obtaining informed consent, each participant will access an activity (i.e., solve anagrams) on a custom app using their mobile phones that also contains in-app ads (controlled by the experimenter) typical of free games. Each participant will watch a media clip on the primary screen while simultaneously using a second screen (i.e., mobile phone) to access the secondary activity.

The custom app will feature pop-up ads. The exact number of ads will be determined based on pre-test and pilot experiments. The order in which the ads appear will be randomized across participants, but each participant will receive an equal number of ads appearing at set times. For each pop-up, the user will be able to close out of the ad or it will time out automatically after 15 seconds. Therefore, theoretically, if a participant is watching the primary screen exclusively, a pop-up could appear and time out without them ever viewing it. The custom app will record behavioral information including the order of ads, if and when ads were closed, and performance on the anagram game.

Following the multiscreen viewing experience, participants will complete surveys to collect various psychological and behavioral constructs, such as ad recall and sport involvement. These measures will serve as dependent variables (e.g., does behavior on the second screen influence satisfaction levels), moderators/mediators (e.g., does psychological involvement with the focal media moderate any or all existing relationships), and robustness checks (e.g., assess the degree to which participants observed the two screens to consider potential confounding variables such as activity engagement levels).

Although the above gives a broad overview of our experimental design, to ensure accurate results, we will conduct a two-stage study. In the first stage, our focus will be to investigate the effect of game action, degree of involvement and multiscreen usage on ad recall (H1, H2, H3, and H5). This will be done separately to ensure the validity of results, particularly that the timing and placement of ads does not confound results considering ad congruency. After ensuring the experiment design and underlying relationships, the second stage will go one level deeper by considering ad congruence, with respect to the primary screen, and its influence on ad recall (confirming H1, H2, H3, and H5 while adding H4). Prior to conducting the experiment, pilot studies are necessary.

Pilot Studies

We selected a 15-minute clip of a random regular game between two well-known football teams in 2016. Well-known games (e.g., playoffs, Superbowl, etc.) were avoided to ensure the results were not confounded by participants' general recall of the game. Next, the game clip was coded by two independent sports experts using the categories: in play, replay, or commentary. Since this clip was exclusively the football game, there were no commercial breaks.

For Stage 1, we selected 9 well-known brands and conducted a popularity match to ensure the brands were equally well-known. This was accomplished by surveying experts and measuring reliability. For Stage 2, nine congruent and nine incongruent ads will be developed following past research (e.g., Myers et al. 2014). These ads represented three congruence types: plot, actor, and language. For example, an actor-congruent ad would feature an NFL player, while the incongruent version would have a non-sport celebrity. Language congruent ads feature context specific terminology or language (e.g., an NFL team's catchphrase versus normal vocabulary), while plot congruence refers to the situational context (e.g., football players versus flight attendants). Thus, having three images of each category (actor, plot, and language) results in nine congruent ads and nine incongruent ads. Pilot tests will be conducted to assess the congruency levels of these stimuli.

Since the pilot studies are complete and the stimuli have been designed and tested, Stage 1 of the research design is underway.

Stage 1

Stage 1 focuses on how ad recall differs based on the engagement with the primary screen and second screen (H1 and H3) and the level of consumer involvement (H2 and H5). Two hundred students are recruited to be a part of this study. They are instructed to watch the 15-minute NFL game, while simultaneously solving anagrams on their phones[1]. During the anagram game participants are interrupted by pop-up ads, which appear in accordance with the game action previously expert-coded; three ads appear during game play, three during replays, and three during commentary. Based on the results from Stage 1 we will be able to gauge whether the difference in consumer's ad recall depends on game action on the primary screen (e.g., game play vs. replay vs. commentary), the level of consumer involvement with football, and the usage level of each screen (e.g., amount of attention dedicated to each screen).

For Study 1, we are providing course credit for study completion. For future studies we intend to provide performance-based incentives. Considering multiple incentive structures across studies will help to attenuate concerns related to the impact of incentive structure on the results.

We want to further test the effect of ad congruence on additional measures beyond brand recall to better understand observed effects. The app contains a proxy for clickthrough, that can be used to assess for an alternative explanation (e.g., recall based on general ad interest as opposed to congruency). Our custom app has an additional functionality of closing the ad upon pop-up. There are two buttons allowing the consumer to close out of the ad early (i.e., prior to the automated timeout at 15 seconds): interested and close. Participants are instructed to press "interested" if in real life they would clickthrough on the ad or search for more information, while "close" functions as an "x" button allowing the participant to close out early due to lack of interest. This functionality is explained to the participants during the initial study instructions. This data would allow us to measure the effect of ad congruence as we would expect that congruent ads would see more interest among fans versus incongruent ads.

[1] The choice of the secondary activity is consistent with past research (e.g., Segijn et al. 2017). The overarching goal of the lab experiment is to stimulate the cognitive load placed on consumers while engaging in second screen viewing (rather than exactly mirror second screen viewing in real life), thus the use of a standardized secondary task is appropriate in this context. To increase generalizability however, we intend to augment our analysis with a field study where push notifications are delivered to participants as they watch a live game in future research.

Stage 2

Stage 2 focuses on the moderating impact of ad congruence (H4). Identical to Stage 1, participants will watch a 15-minute game clip while simultaneously solving anagrams on their second screens. Pop-up ads will still interrupt the secondary task of solving anagrams, however, they will now be (in)congruent to the game on the primary screen. Specifically, participants will be randomly divided into two groups, viewing either congruent or incongruent ads. This results in a between subjects measure of ad congruence. By using a between subject's design, the brand of the ads does not change between congruency types. A sample of 200 students will be recruited, ensuring no overlap with Stage 1 participants. Following the study, participants will again complete surveys.

Measures

Psychological and Behavioral Measures

In our conceptual model our primary dependent variable is unaided ad recall (Walsh et al. 2008), while ad recognition (Aaker 1992, Walsh 2008) will be collected to be used as a robustness check. Psychological involvement is measured using conventional measurements from sport management literature given the study's context (Beaton et al. 2011). In addition to the focal measures, we control for ad familiarity (Pitts and Slatterry 2004) as participants may give biased responses to ad memory tests depending on their level of brand familiarity.

Multiscreen Measures

To gauge engagement with the NFL game clip, aided and unaided game recall questions are collected. These questions ranged in difficulty to assess the degree to which the participant paid attention to the clip. Sample questions include: "How many touch downs were scored?", "How many fouls occurred?", and "Who was the quarterback of team A?". Aided and unaided questions are included to control for the difference in responses due to differing familiarity with NFL among participants and to be used as a robustness check.

Second screen usage measure include will be derived directly from the custom app (e.g., number of puzzles correctly solved, time taken to solve each puzzle, etc.). Additional measures with respect to the secondary task, such as engagement level and perceived degree of difficulty, were collected as controls.

Demographic and Self-Reported Behavior Measures

Demographic variables and self-reported behavior measures were collected. For demographics, age, gender, and income level were collected. To control for differing propensity of consumers to watch NFL games, respondents were asked to identify the number of NFL games they typical view a week. Similarly, following past research precedent (Cauwenberge et al. 2014), self-reported propensities to use second screens while watching television is collected.

Analytical Strategy

For our analysis we will be using partial least squares structural equation models (PLS-SEM) as it is well-suited for a large sample size, high correlation between constructs, and a primary purpose of predictive accuracy (Ringle et al. 2012, Wong 2013). Using Smart PLS 3.0 with default sign-change and confidence interval settings, the bootstrap method will be used (Hair Jr. et al. 2016).

Expected Results and Contributions

It is anticipated that the amount of attention dedicated to the second screen will be contingent on game action, with the second screen receiving more attention between plays in the NFL game. There will also be a mediating effect of involvement, with fans who have higher involvement levels dedicating their attention to the NFL game clip, at the expense of solving puzzles. It is also anticipated that second screen usage will positively influence ad recall, with a moderating effect of ad congruence and psychological involvement. Specifically, participants will be more likely to remember congruent, as opposed to incongruent,

advertisements and be more likely to remember ads if highly involved. Collectively, the knowledge derived from these expected results has important theoretically and managerial implications as it provides insight into how consumers process media in multiscreen viewing environments.

This project will make a number of theoretical contributions to various research domains. First, DTI scholars (in Neuroscience and Information Systems) have looked at the effect of interruptions on the performance of primary/secondary tasks. However, with the pervasiveness of multiscreen viewing, it is important to understand how these strategies differ as users balance multiple devices. Next, the second screen literature in information systems and marketing has not paid sufficient attention to "context" in which the ads appear while consumers are engaged across multiple screens. This is in spite of its potential economic value to marketers. Our research would thus contribute to this literature by adding in this important element. The research would also add to the second screen literature by introducing the notion of psychological involvement with content. The research would further add to the task congruence literature in marketing by considering its influence in the multiscreen consumption landscape. Apart from marketing and information systems, the research would also contribute to the judgement and decision making literature (e.g., context effects in decision making) and open doors for future research investigating mechanisms of consumer behavior as they interact more on multiple screens. Finally, by considering sport content (e.g., football clip) as the media type, this research would contribute to sport management literature by considering the influence of important psychological constructs (e.g., psychological involvement) on the sport consumption experience.

Future Research

To confirm our results and increase generalizability of our findings, future studies should be conducted using alternative secondary tasks. A field study should be conducted to confirm the results in a real setting, where push notifications are delivered to participants while they view a live game. Additionally, future studies should continue to vary the sample population and game type to enhance generalizability.

The obtained results could be reflective of the incentive structure. Due to the unnatural experience of a lab experiment (e.g., watching a football game when in reality the participant would never watch football), incentives where deemed necessary to increase engagement. We will embrace different incentive structures across studies to attenuate their impact. However, there are still limitations associated with incentive structures that should be acknowledged and further explored in future studies.

Further although we do use objective measures such as intension to clickthrough to test the effect of our treatment, future research could look at other measures such as brand image, ad conversion, purchase intentions, sales, etc. Additional mediating and moderating variables beyond psychological involvement and ad congruence should be considered in future research.

Managerial Implications

The results of this study will contribute to advertising and marketing by identifying specific strategies that can be used to improve advertising efficacy. More specifically, such insights will be helpful for marketers as they decide how to market in multiscreen environments; specifically, when to push ads on the second screen and how to optimally design and release such ads. Further, although notifications have become ubiquitous in today's world, their efficacy is often ignored (i.e., how effective these messages/notifications are to get consumers to convert). Understanding the opportune time and context to send such messages can not only increase their effectiveness but also save money which would otherwise be wasted on ineffective messaging/notifications. Effectively, though knowledge derived from this research will likely be used by marketers and advertisers most frequently to maximize their return on advertising investments, it is also important for any type of communication. Consumers are continuously inundated with information throughout their daily life; understanding when and how to best reach consumers to distribute critical information is of the utmost importance. This project will provide such insight by identifying how consumers process media in the multiscreen landscape.

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